

ROBERT G. LYNN

IBLA 81-233

Decided November 24, 1981

Appeal from decision of the California State Office, Bureau of Land Management, rejecting noncompetitive oil and gas lease offer CA 5860 and partially rejecting offer CA 5861.

Affirmed.

1. Oil and Gas Leases: Discovery -- Oil and Gas Leases: Known Geologic Structure -- Oil and Gas Leases: Noncompetitive Leases -- Oil and Gas Leases: Production

A determination by the Geological Survey that certain lands are within the known geologic structure of a producing oil and gas field does not guarantee the productive quality of the lands included in the structure. The boundaries of a known geologic structure of a producing oil and gas field are defined for administrative purposes and cannot be taken as absolutely and accurately showing the extent in each instance of the geologic structure producing oil or gas.

The fact that there has been a cessation of production or abandonment of wells in a given field is not of itself sufficient to warrant a redefinition of the structure or the revocation of the classification of the field in the absence of a proper showing that the area does not in fact contain valuable deposits of oil or gas.

2. Oil and Gas Leases: Generally -- Oil and Gas Leases: Discovery -- Oil and Gas Leases: Known Geologic Structure

A determination by the Geological Survey of the known geologic structure of a producing oil and gas field will not be

disturbed in the absence of a clear and definite showing that the determination was improperly made.

APPEARANCES: Robert G. Lynn, pro se.

OPINION BY ADMINISTRATIVE JUDGE LEWIS

Robert G. Lynn appeals from the November 3, 1980, decision of the California State Office, Bureau of Land Management (BLM), rejecting in its entirety noncompetitive oil and gas lease offer CA 5860 and partially rejecting offer CA 5861.

These offers were filed on February 2, 1979, for the following lands:

CA 5860 T. 31 S., R. 23 E., Mount Diablo meridian, sec. 6,
S 1/2 W 1/2 of lot 1 of NE 1/4, E 1/2 of lot 1
NE 1/4, lot 2 of NE 1/4, S 1/2 W 1/2 of lot 1
of NW 1/4, N 1/2 S 1/2 of lot 1 of SW 1/4,
S 1/2 W 1/2 SE 1/4, and E 1/2 SE 1/4

CA 5861 T. 31 S., R. 25 E., Mount Diablo meridian, sec. 6,
E 1/2, sec. 8, NW 1/4, N 1/2 SW 1/4, and
SW 1/4 SW 1/4, sec. 18, N 1/2 NE 1/4

BLM's decision was based on information received from Geological Survey (GS), that the E 1/2 of sec. 6, T. 31 S., R. 25 E., Mount Diablo meridian, was added to the Elk Hills known geologic structure as an undefined addition effective January 1, 1980, and that all but the N 1/2 NW 1/4 ^{1/} of sec. 6, T. 31 S., R. 23 E., Mount Diablo meridian, was added to the North Buena Vista Hills undefined known geologic structure effective June 15, 1980. The decision relied upon 43 CFR 3101.1-1, which provides that when land is within the known geologic structure (KGS), of a producing oil or gas field prior to issuance of a lease, it may be leased only by competitive bidding.

The file contains two GS memoranda setting out the reasons for the additions to the KGS's. The January 22, 1980, memorandum states:

The proposed undefined addition to Elk Hills Known Geologic Structure is located on the east side of the Elk Hills Naval Petroleum Reserve No. 1 in Section 6, T. 31 S., R. 25 E.

^{1/} The N 1/2 NW 1/4 was already a part of North Buena Vista undefined KGS prior to the June 15, 1980, extension.

The Elk Hills Known Geologic Structure was established in 1923 and closely parallels the borders of the Naval Petroleum Reserve. Oil and gas are trapped primarily in large southeast-trending anticlines and secondarily by lithofacies changes. At least nine producing zones are known in the Elk Hills field (table 1). Maximum proved acreage is 19,770 acres and cumulative production as of January 1973 was 281,627,730 barrels of oil and 169,552,289 Mcf of gas.

The undefined addition to the Elk Hills KGS occupies the E 1/2 and the SE 1/4 SW 1/4 of Section 6. This addition is an undrilled tract of land lying between the Elk Hills field and the South Coles Levee oil field to the east.

The Pliocene structure underlying Section 6 is a southeast-trending homocline and appears to be in the most favorable situation for hydrocarbon accumulation, as indicated by current production upstructure to the west and by gas shows down structure to the east.

The Miocene structure underlying Section 6 is a southeast-trending anticlinal ridge which disappears eastward into a saddle, separating Elk Hills and South Coles Levee production. The E 1/2 of Section 6 is very low on the Miocene structure. Most of the wells drilled in the west half of Section 6 are less than 3500' in total depth and therefore, have not tested the Miocene. East of the undefined addition, only one well, "KCL 20" no. 13, tested the Miocene and attempted production from a Stevens sand. Following is a summary of pertinent wells adjacent to the undefined addition.

Wells in Section 6

Twenty-two wells have been drilled in Section 6, west of the undefined addition. Six wells are shown on California Division of Oil and Gas maps as currently productive and the remaining wells are abandoned producers.

All production in Section 6 has been from Pliocene Etchegoin sands, at an average depth of 2663'-2717', or 54' of pay. The most prolific producer as indicated by initial production was well no. 1-B which started out in 1937 with 820 BOPD and .01% cut. This well is still on production. Average initial production for the other wells has been around 220 BOPD and 5% cut, 18.3 degrees gravity.

The first wells drilled in Section 6 were spudded in around 1921. The last wells were drilled in 1937 and about 13 wells were abandoned around this time. A few wells were officially abandoned in 1945. In many cases abandonment

was due to water entering the well from nonproducing zones, to extensive heaving of sand and shale, and to loss of junk in the hole. Final production figures (Table 2) are low, but are probably more economical in the current market. Well no. 2-A was producing 50 barrels of oil and 150 barrels [sic] of water daily before abandonment. Six other wells had a final production of 9 to 24 barrels of oil daily.

Wells in Adjacent Sections 5, 7, and 8

In Section 5 two dry holes were drilled adjacent to the undefined addition. Well no. "KCL 1" no. 2 was drilled around 1920 to 5685', still in the Pliocene. According to Dosch (1962) gas showings encountered at 2910'-3055' were tested and found to be noncommercial in the 1920's market.

Well "KCL 20" no. 13 was drilled through the top of the lower Miocene to 16,246' in 1943. The Pliocene section was over 3,000' thick and the Miocene Monterey Shale section penetrated was more than 7400' thick. An unsuccessful production attempt was made from a lower Stevens sand at 10,380'-10,660'. All formation below 11,000' was found to be very dense with no trace of oil, gas or water. The well was abandoned in 1945.

In Section 7, well no. A-1 was drilled to 3700', or 150' below the top of the Pliocene Mulinia sand. All sands were gray with no oil shows and the well was abandoned in 1937.

In Section 8, well no. 1 was drilled in 1921 to a total depth of 4345', still in the Etchegoin formation. A shale interval from 3692'-3699' reportedly yielded "lots of gas and a show of oil" (from well records) and a water sand was encountered at 4305'. The well was abandoned in 1933.

Summary and Conclusion

The proposed undefined addition to the Elk Hills Known Geologic Structure lies within a Known oil and gas producing area. Hydrocarbon potential is greatest in the Pliocene formations as indicated by favorable homoclinal structure underlying the addition and by known Pliocene production to the west. Accumulation and production [sic] is controlled to a great extent by permeability variations so it is certainly possible that a productive lense lies beneath the addition.

The relatively high final production statistics for abandoned wells in Section 6 also point to the possibility

that production will be found in the east half of the section. Also, several wells were abandoned because of junk lost in the hole or heaving, rather than poor production.

The Miocene has not been tested at all in Section 6. Although the structure here is very low, it is impossible to know whether hydrocarbon is present since it has not been drilled. In the South Coles Levee field about 1/2-mile to the east in Section 5, production is from Stevens sands below - 8000'. The Stevens sands are probably present in well "KCL 20" no. 13, Section 5. The Stevens sand in this well was not productive, but one well is inconclusive due to the lithofacies changes common in this area.

This tract of federal land has good potential for oil and gas and should not be leased on a non-competitive basis. Therefore, the following discribed [sic] lands are in the proposed undefined addition to the Elk Hills Known Geologic Structure:

Kern County, California	
M.D.M., T.31S., R.25E.	
Sec. 6 E 1/2	320
SE 1/4 SW 1/4	<u>40</u>
Total Acres	360

[Emphasis in original.]

The text of the June 19 memorandum is as follows:

The North Buena Vista Hills undefined known Geologic Structure was defined on January 9, 1963 in T. 31S., R. 23E., Section 6, N 1/2 NW 1/4, based on production from the Sunset A-1 well (Plate 1).

Closer examination of the Section 6 area indicates that the undefined KGS should be expanded (Plate 2) to include surrounding acreage which has yielded good shows of hydrocarbon along two small anticlinal structures.

Plates 3 and 4 show the structure in the expanded KGS, and the location of wells drilled in the area.

The Sunset A-1 well was completed in May 1945 producing 28 barrels of 21 degrees API gravity oil with 35% cut. Production in 1978 averaged three to four barrels of oil daily with 86% cut. The reservoir is the sub-Mulinia sand of the Etchegoin Formation in the perforated interval 3046-3091 feet. The Sunset A-1 well is drilled on a small anticlinal fold on the southwest limb of the Buena Vista syncline. This minor fold trends northwest, parallel to the synclinal axis.

Several other wells have been drilled on this trend. Mason well nos. 2 and 4 are abandoned producers, located just west of well A-1. Well no. 2 produced 110 barrels of oil and less than 1% cut upon completion in 1923. The oil was produced from the sub-Mulinia sand in the perforated interval 2076-3134 feet. Production dwindled to less than 9 BOPD by 1942 and the well was abandoned in 1949. Well no. 4 was completed in 1927 in the sub-Mulinia sand from 2785-2922 feet. Initial production was 12 BOPD with 20% cut. By August 1937 the well produced only water and was subsequently abandoned in 1941.

The United Oil Company "Ellis" no. 1 well encountered two oil sands from 3469-3470 feet, and was abandoned in 1929.

The deepest well drilled in Section 6 is the "S.O.-Co. Sunset USL" no. 63.

This well was drilled to a vertical depth of 7485 feet in 1964. An oil sand was encountered at 3095 feet, but no Stevens sand was found in the well.

The United Oil Co. "Sue Greenleaf" no. 1 well was drilled in 1925. Oil at the rate of about 5 B/D was found in the perforated interval 3186-3267 feet. In 1926 the well yielded 150 BO of 19.5 degrees API gravity and 3.8% cut over a three day period. The well was abandoned in 1933.

Little data is available on the H. H. Bell no. 1 well in the NE 1/4 or on the Ninkovich no. 1 well in the SE 1/4. Both wells reached only about 500+ feet and did not get out of the Pleistocene.

Another northwest-trending anticline passes through the south half of Section 6. Of the three wells drilled along the axial trend, the best shows were found in the Mason no. 5 well. Drilled in 1927, this well encountered five oil sands from 2820-2994 feet, although none were considered to be of sufficient thickness or saturated at the time. The well was abandoned the same year.

The "Rudisill" no. 1 well was drilled in 1911 and is reported to have found several slight oil shows from 2918-3165 feet.

The Golden Bear Oil Co. "Connell" no. 1 well penetrated the Mulinia and Olig sands but found no shows of oil or gas.

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Vista syncline to the northeast and the Belgian anticline to the southwest. Production has been found on similar structures along the same trend to the west and northwest of Section 6.

Based on the delineation of two small folds, the presence of a productive well, abandoned producers and good shows of hydrocarbon in "dry" holes, the following described land is in the proposed extension of the North Buena Vista undefined KGS:

Kern County, California M.D.M.		
T. 31S., R. 22E.	<u>Acres</u>	
Sec. 1: E 1/2 NE 1/4, NE 1/4 SE 1/4	120	
T. 31S., R. 23E.		
Sec. 6: All	640	
T. 30S., R. 22E.		
Sec. 36: SE 1/4 SE 1/4	40	
T. 30S., R. 23E.		
Sec. 31: S 1/2 SW 1/4	<u>80</u>	
Total Acres	880	

[Emphasis in original.]

Appellant's statement of reasons argues essentially that these GS reports are based on dated drilling activity which occurred between 17 and 43 years ago, and that there is no current evidence to support GS's conclusions. With respect to the January 22, 1980, memorandum, appellant points out that the most recent well in the area was drilled in 1937. Appellant asserts there is so much negative information in this memorandum that it is difficult to understand that the criteria of a KGS are met. Appellant states that GS had reviewed the same evidence four times previously and on those occasions found it insufficient to justify including the lands within a KGS.

Having reference to the June 19, 1980, memorandum, appellant states that the only well of any consequence is the Sunset A-1 in sec. 6 (T. 31 S., R. 23 E.) completed in 1945. Appellant objects specifically to the last paragraph of this report wherein the delineation of "two small folds" among other factors is given as a reason for adding the subject acreage to the KGS. Appellant contends that the folds are productive only to the west and northwest on lands already within a KGS. Appellant states that the abandoned wells in the W 1/2 of the section were never really economic and their offsetting dry holes limited both the size of whatever structure exists and the interest of operators in further exploration. Appellant asserts that there has been no drilling activity to justify expanding the KGS to include the entire section.

[1] Regulation 43 CFR 3100.0-5 defines a known geologic structure as "technically the trap in which an accumulation of oil or gas has been discovered by drilling and determined to be productive the

limits of which include all acreage presumptively productive." A reasonable determination of a KGS is based on knowledge of the existence of a continuous entrapping structure on some part of which there is production. Such a determination is not a prediction as to future productivity, nor a statement as an existing fact that anything is known about the productivity of all the land in the structure. Moreover, the boundaries of a KGS are defined for administrative purposes, are not immutable, and cannot be taken absolutely and accurately to reflect the extent in each instance of the geologic structure producing oil and gas. James Muslow, Sr., 51 IBLA 19, 23 (1980), and cases there cited.

In light of these criteria we consider the issue before us. That issue is whether GS properly concluded that the acreages in question were presumptively productive. Appellant's major challenge is that the reports are based on old information. We observe at the outset that 43 CFR 3100.0-5 contains no strictures regarding currency of data. Rather, the concern is whether a KGS determination is based on valid data. The January 22 memorandum states that the Pliocene structure underlying sec. 6 appears to be in "the most favorable situation for hydrocarbon accumulation, as indicated by current production upstructure to the west and by gas shows down structure to the east." (Emphasis added.) The memorandum points out that well No. 1-B in sec. 6 has been producing since 1937, and is currently producing from the Pliocene structure. Moreover, of 22 wells in sec. 6, 6 are currently productive and the remainder are abandoned producers. The June 19 memorandum also bases its conclusion in part on the presence of a productive well and describes the geologic structure along which production has been found. Based on the information tabulated in the reports, we find that GS correctly concluded the acreages involved to be presumptively productive. The negative evidence which appellant has emphasized is insufficient to invalidate this conclusion under the governing criteria. As the Board stated in McClure Oil Co., 4 IBLA 255, 259 (1972):

The fact that there has been a cessation of production or abandonment of wells in a given field is not of itself sufficient to warrant a redefinition of the structure or the revocation of the classification of the field in the absence of a proper showing that the area does not in fact contain valuable deposits of oil or gas. (Emphasis supplied.)

Such a showing has not been made by appellant. ^{2/} His suggestion that the areas may not be economically attractive to potential oil and gas explorers is not a crucial factor. As we pointed out previously, a

^{2/} Judge Burski is of the view, expressed by Judge Stuebing in his concurrence herein, that if all production from a structure ceases, the structure cannot be said to be a "known geologic structure of a producing oil or gas field." Until such time, however, as that question is squarely presented by an appeal and reexamined, he agrees that he is bound by the Board's former decision.

KGS determination makes no prediction as to quantum of future productivity. James Muslow, Sr., supra; Vernon Benson, 48 IBLA 64 (1980).

[2] An applicant for an oil and gas lease who challenges a determination by GS that lands are situated within a KGS has the burden of showing that the determination is in error, and the determination will not be disturbed in the absence of a clear and definite showing of error. James Muslow, Sr., supra; Curtis Wheeler, 31 IBLA 221 (1977); Geral Beveridge, 14 IBLA 351 (1974). Appellant alludes to Robert L. Haymie, 51 IBLA 1 (1980) in which a question arose as to the factual data used to support the determination of GS. Unlike Haymie, the record in the case before us contains the geological and drilling data relied on. While appellant has challenged aspects of that data, he has shown no clear and definite error, nor presented contrary evidence of his own.

Therefore, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the decision appealed from is affirmed.

Anne Poindexter Lewis
Administrative Judge

I concur:

James L. Burski
Administrative Judge

ADMINISTRATIVE JUDGE STUEBING CONCURRING:

In my dissenting opinion in David A. Provinse, 27 IBLA 376, 386-96 (1976), I expressed strong disagreement with the Department's practice of continuing to designate and administer lands as within "the known geologic structure of a producing oil or gas field" long after production has ceased because no further production was possible from the wells in place. My attitude toward that practice has not altered, and thus I am in personal disagreement with the majority's reliance on the quotation from McClure Oil Co., 4 IBLA 255, 259 (1972), which states:

The fact that there has been a cessation of production or abandonment of wells in a given field is not of itself sufficient to warrant a redefinition of the structure or the revocation of the classification of the field in the absence of a proper showing that the area does not in fact contain valuable deposits of oil or gas.

Nevertheless, I am bound by stare decisis to adhere to established precedent until it is overturned; and, therefore, my concurrence is obligatory.

Moreover, there is a factual distinction to be drawn between the instant case and David A. Provinse, supra. In Provinse there was no production from any portion of the designated KGS, and there had not been for many years. In the case at bar, however, there is current production from the field designated, and the only question is whether the additional land was correctly identified by Geological Survey as being on the same geologic structure. While the evidence relied upon by the Survey is by no means absolutely definitive, it appears to afford sufficient basis for a reasoned conclusion. Although that conclusion is open to challenge, appellant has failed to carry his burden to demonstrate by a preponderance of evidence that the land in question is not on the same structure.

Edward W. Stuebing
Administrative Judge

